

Disaster Preparation Handbook

**A planning and response guide
for natural disasters and
hazardous materials accidents**



**WASHINGTON MILITARY DEPARTMENT
Emergency Management Division**



Preparing Your Family for Disaster

When preparing your family for disaster, prepare to be on your own for at least three days. Chances are likely that after a major disaster, emergency response teams may not be able to provide immediate care to your family.

The Plan

- Have at least a three-day supply of food, water, clothes, medical supplies and other necessary equipment for everyone in your family.
- Know the locations of the nearest fire and police stations.
- Decide where and when to reunite your family should you be apart when a disaster happens.
- Locate shutoff valves for water, gas, and electricity. Learn how to shut off the valves before an earthquake or other disaster.
- Choose a person outside the immediate area to contact if family members are separated. Long distance phone service will probably be restored sooner than local service. Do not use the phone immediately following a disaster.
- Keep a small amount of extra cash available. If the power is out, ATM machines will not operate.
- Keep an extra pair of eyeglasses, house keys and car keys on hand.
- If you have a family member who does not speak English, prepare an emergency card written in English indicating that person's identification, address and any special needs such as medication or allergies. Tell that person to keep the card with them at all times.
- Conduct earthquake and fire drills once every six months.
- Know the "safe spots" in each room.
- Make copies of your vital records and store them in a safe deposit box in another city or state. Make sure your originals are stored safely.
- Establish all the possible ways to exit your home. Keep all exits clear of debris.
- Take photos and videotapes of your home and your valuables. Make copies and place them in a safe deposit box in another city or state.
- Make sure all family members know about your disaster plan. Also, relay this information to babysitters or others who might be in your home.
- Know the policies of the school and daycare your children attend. Make sure your child's emergency release card is up to date. Designate others to pick up your child should you be unable to pick them up.

General Tips

- Stay away from heavy furniture, appliances, large glass panes, shelves holding objects, and large decorative masonry, brick or plaster such as fireplaces.
- Keep all hallways clear. Hallways are usually one of the safest places to be in an earthquake.
- Stay away from kitchens and garages, which tend to be the most dangerous places because of the many items kept there.

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Children who experience an initial traumatic event before they are 11 years old are three times more likely to develop psychological symptoms than those who experience their first trauma as a teenager or later. But children are able to cope better with a traumatic event if parents and other adults support and help them with their experiences. Help should start as soon as possible after the event.

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Helping Your Child After a Disaster

It's important to remember that some children may never show distress, while others may not give evidence of being upset for several weeks or even months. Other children may not show a change in behavior, but may still need your help.

Children may exhibit the following behaviors after a disaster:

- Be upset over the loss of a favorite toy, blanket, etc., which are important to them.
 - Change from being quiet, obedient and caring to loud, noisy and aggressive, or may change from being outgoing to shy and afraid.
 - Develop nighttime fears, (nightmares, fear the dark or sleeping alone).
 - Be afraid the event will reoccur.
 - Become easily upset, crying and whining.
 - Lose trust in adults. After all, their adults were not able to control the disaster.
 - Revert to younger behavior (bed wetting, thumb sucking).
 - Not want parents out of their sight. Refuse to go to school or day care.
 - Feel guilty they caused the disaster because of something they said or did.
 - Become afraid of wind, rain or sudden loud noises.
 - Have symptoms of illness, such as headaches, vomiting or fever.
 - Worry about where they and their family will live.
- Children should not be expected to be brave or tough, or to "not cry."
 - Don't give children more information than they can handle about the disaster.
 - Assure fearful children you will be there to care for them, reassure them over and over.
 - Go back to former routines as soon as possible. Maintain a regular schedule for the children.
 - Reassure the children that the disaster was not their fault.
 - Let the children have some control, such as choosing clothing or what meal to have for dinner.
 - Re-establish contact with extended family.
 - Help your children learn to trust adults again by keeping promises you make.
 - Help your children regain faith in the future by making plans for the future.
 - Get needed health care as soon as possible.
 - Spend extra time with the children at bedtime.
 - Make sure the children eat healthy meals and get enough rest.
 - Allow special privileges for a short period of time, such as leaving the light on when they go to bed.
 - Find ways to emphasize to the children that you love them.
 - Allow the children time to grieve losses.
 - Develop positive anniversary activities to commemorate the event. These may bring tears, but they are also a time to celebrate survival and the ability to get back to a normal life.

Things parents can do to help their children:

- Talk with the children about how they are feeling. Assure them that it's OK to have those feelings.
- Help the children learn to use words that express their feelings, such as happy, sad, angry, etc.



Pets Are Family, Too!

When preparing your home for disaster, don't forget to include supplies for your pets. When disaster strikes they will need you more than usual to care for their needs and provide for their safety.

Before a Disaster

- Store enough food and water to last at least three days.
- Prepare an evacuation kit for your pet. The kit should include:
 - An unbreakable dish
 - Medications and instructions
 - A leash or pet carrier, and
 - Your pet's veterinary records
- Consider having a permanent microchip implanted in your pet; this ID cannot be lost or removed. See your veterinarian for more information.
- Make arrangements with a neighbor or close relative to care for your pet in the event you are unable to return home immediately following a disaster.
- Make sure your pet's ID tag is up to date with accurate information.
- Secure bird cages and fish tanks. They can move and break during a disaster, especially an earthquake. Secure fish tanks with industrial strength velcro and have the tanks on low stands or tables. Tighten the latch on your bird cage so that the door cannot be shaken open easily.

During and After a Disaster

- If the ground starts shaking, do not try to hold on to your pet during the shaking. Animals will instinctively protect themselves and hide where they're safe.
- Be patient with your pets after a disaster. Pets get stressed just as people do and may need time to readjust.
- If you have outdoor pets, you should consider bringing them inside after an earthquake. Keep them inside until the threat of aftershock has disappeared and your pet has had time to calm down.
- Make arrangements for your pet if you must evacuate after a disaster. Remember, pets are not allowed in shelters. Leave your pet in a secure place with ample water and food. If possible, return daily to check on your pet until you can return to your home permanently.

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Developed by the
Ancient Living
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San Francisco,
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Disaster Tips for People With Mobility Disabilities

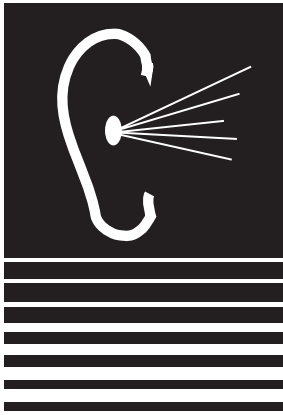
The following information will assist people with mobility disabilities and will help make them more confident when disaster strikes.

Storage

- Store emergency supplies in a pack or backpack attached to a walker, wheelchair, scooter, etc.
- Store needed mobility aids (canes, crutches, walkers, wheelchairs) close to you in a consistent, convenient and secured location. Keep extra aids in several locations, if possible.
- Store a lightweight manual wheelchair, if available.
- Arrange and secure furniture and other items to provide paths of travel and barrier free passages.
- If you spend time above the first floor of an elevator building, plan and practice using alternate methods of evacuation. If needed, enlist the help of your personal support network.

Emergency Kit

- Keep a pair of heavy gloves in your supply kit to use while wheeling or making your way over glass or debris.
- If you use a motorized wheelchair or scooter, consider having an extra battery available. A car battery can be substituted for a wheelchair battery, but this type of battery will not last as long as a wheelchair's deep-cycle battery. Check with your vendor to see if you will be able to charge batteries by either connecting jumper cables to a vehicle battery or by connecting batteries to a specific type of converter that plugs into your vehicle's cigarette lighter in the event of loss of electricity.
- If you do not have puncture proof tires, keep a patch kit or can of "seal-in-air product" to repair flat tires, or keep an extra supply of inner tubes.
- If you cannot use stairs, discuss lifting and carrying techniques that will work for you. There will be instances where wheelchair users will have to leave their chairs behind in order to safely evacuate a structure.
- Sometimes transporting someone downstairs is not a practical solution unless there are at least two or more strong people to control the chair. Therefore, it is very important to discuss the safest way to transport you if you need to be carried, and alert them to any areas of vulnerability. For example, the traditional "fire fighter's carry" may be hazardous for some people with some respiratory weakness.
- You need to be able to give brief instructions regarding how to move you.



Developed by the
Independent Living
Resource Center,
San Francisco,
California

Disaster Tips for the Hearing Impaired

This checklist will assist people who are deaf or hearing impaired
to be prepared when disasters strike.

Hearing Aids

- Store hearing aid(s) in a strategic, consistent and secured location so they can be found and used after a disaster.
- For example, consider storing them in a container by your bedside, which is attached to a nightstand or bedpost using a string or Velcro. Missing or damaged hearing aids will be difficult to replace or fix immediately after a major disaster.

Batteries

- Store extra batteries for hearing aids and implants. If available, store an extra hearing aid with your emergency supplies.
- Maintain TTY batteries. Consult your manual for information.
- Store extra batteries for your TTY and light phone signaler. Check the owner's manual for proper battery maintenance.

Communication

- Determine how you will communicate with emergency personnel if there is no interpreter or if you don't have your hearing aids. Store paper and pens for this purpose.
- Consider carrying a pre-printed copy of important messages with you, such as: "I speak American

Sign Language (ASL) and need an ASL interpreter," "I do not write or read English," and "If you make announcements, I will need to have them written or signed."

- If possible, obtain a battery-operated television that has a decoder chip for access to signed or captioned emergency reports.
- Determine which broadcasting systems will be accessible in terms of continuous news that will be captioned and/or signed. Advocate so that television stations have a plan to secure emergency interpreters for on-camera emergency duty.

Alarms

- Install both audible alarms and visual smoke alarms. At least one should be battery operated.

Advocacy

- Recruit interpreters to be Red Cross emergency volunteers.
- Maintain advocacy for TV stations to broadcast all news and emergency information in open caption format.
- Ensure hotels have access packets for the deaf and hearing-impaired persons, including audible alarms, when you travel. Ask for them when you check in.

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Disaster Tips for People With Visual Disabilities

The more you prepare for earthquake or other disaster the more you will be able to protect yourself, your family, and your belongings.

Canes

- If you use a cane, keep extras in strategic, consistent and secured locations at job, home, school, volunteer site, etc., to help you maneuver around obstacles and hazards.
- Keep a spare cane in your emergency kit.

Alternate Mobility Cues

- If you have some vision, place security lights in each room to light paths of travel. These lights plug into electric wall outlets and light up automatically if there is a loss of power. They will, depending on type, continue to operate automatically for 1 to 6 hours and can be turned off manually and used as a short-lasting flashlight.
- Store high-powered flashlights with wide beams and extra batteries.
- If you wear soft contact lenses, plan to have an alternative because you will not be able to operate the cleaning unit without power.
- Plan for losing the auditory clues you usually rely on after a major quake.

- Service animals may become confused, panicked, frightened or disoriented during and after a disaster. Keep them confined or securely leashed or harnessed. A leash/harness is an important item for managing a nervous or upset animal. Be prepared to use alternative ways to negotiate your environment.

Label Supplies

- If helpful, mark emergency supplies with large print, florescent tape or Braille.

Secure Computers

- Anchor special equipment and large pieces of furniture, such as computers and shelving. Create a computer back-up system for important data and store it off site.

Advocacy Issues

- Advocate that TV news not only post important phone numbers, but also announce them slowly and repeat them frequently for people who cannot read the screen.



Developed by a group of health care professions through a grant from the American Red Cross Northern California Disaster Preparedness Network

Disaster Tips for People With Medical Needs

In preparing for a disaster, such as an earthquake, storm, or power outage, people with special medical needs have extra concerns. This information will help you and your family prepare for a disaster.

Medications

- Always have at least a three-day supply of all of your medications.
- Store your medications in one location in their original containers.
- Have a list of all of your medications: name of medication, dose, frequency, and the name of the doctor prescribing it.

Medical Supplies

- If you use medical supplies such as bandages, ostomy bags, or syringes, have an extra three-day supply available at all times.

Electrically Powered Medical Equipment

- For all medical equipment requiring electrical power — beds, breathing equipment, or infusion pumps — check with our medical supply company and get information regarding a back up power source, such as a battery or generator.

Oxygen and Breathing Equipment

- If you use oxygen, have an emergency supply (enough for at least a three day period).
- Oxygen tanks should be securely braced so they do not fall over. Call your medical supply company, regarding bracing instructions.
- If you use breathing equipment, have a three-day supply or more of tubing, solutions, medications, etc.

Intravenous (IV) and Feeding Tube Equipment

- Know if your infusion pump has battery back up, and how long it would last in an emergency.
- Ask your home care provider about manual infusion techniques in case of a power outage.
- Have written operating instructions attached to all equipment.

Emergency Bag

- Have a bag packed at all times in the event you need to leave your home.
- A medication list
- Medical supplies for at least three days.
- Copies of vital medical papers such as insurance cards, Power of Attorney, etc.

People Who Can Help

- An important part of being prepared for a disaster is planning with family, friends, and neighbors. Know who could walk to your home to assist you if other means of transportation are unavailable.
- Discuss your disaster plans with your home healthcare provider.
- Ask your local fire department if they keep a list of people with special medical needs.
- Keep a list handy of people and their phone numbers who can help.

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English translation
on reverse side.

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Información De Alistamiento En Caso De Emergencia

Las agencias gubernamentales responderán a los desastres de la comunidad, pero la realidad es que muchos individuos pueden que tengan que valerse por sí mismos por horas y aun días, después de que el desastre haya ocurrido. Se aconseja que todo individuo esté preparado para cuidarse a sí mismo por lo menos por tres días.

Antes De Que El Desastre Ocurra

- Mantenga agua (preferiblemente en envases plásticos) y alimentos enlatados o que no se echen a perder y que no haya que cocinar (un abre latas).
- Aprenda los primeros auxilios y resucitación cardio-pulmonar (CPR).
- Mantenga un botiquín de primeros auxilios con su manual, así como las medicinas necesitadas por los miembros de la familia.
- Tenga a la mano mantas, bolsas de dormir, láminas plásticas u otros materiales para reparar su hogar o improvisar un refugio.
- Conserve una linterna de pilas con bombillas y pilas adicionales.
- Mantenga una radio portátil de pilas y pilas adicionales.
- Mantenga un recipiente con tapa para usar como inodoro (retrete) y extra papel higiénico.
- Mantenga un extinguidor de incendios y sepa como usarlo.
- Aprenda a cerrar la llave del gas y desconectar el circuito eléctrico y de agua en su casa.

Durante Una Emergencia O Desastre

- Mantenga la calma, tome tiempo para pensar, de ayuda donde la necesiten.
- Encienda la radio para recibir información oficial e instrucciones.
- Use el teléfono solamente para llamadas de emergencia.
- Si se le pide evacuar su casa, tome sus provisiones o abastecimientos de emergencia y vaya a un lugar seguro o refugio temporal designado por las autoridades.

Cuando Las Emergencia O Desastre Haya Pasado

- Use precaución al entrar en edificios u hogares dañados.
- Manténgase lejos de cordones o conexiones eléctricas y electrodomésticos mojados.
- Examine sus provisiones de alimentos y agua por contaminación.
- Notifique a sus parientes que usted está en lugar seguro. (Sin embargo no demore demasiado en el teléfono si las líneas telefónicas aun son necesarias para llamadas de emergencia.)
- Si hay ayuda gubernamental disponible, los noticiarios difundirán la noticia del lugar donde debe presentar su solicitud.



Preparing for an Emergency

Government agencies will respond to community disaster, but the fact remains that citizens may be on their own for hours, even days, after disaster strikes. Each citizen is advised to be prepared to take care of themselves for at least three days.

Before Disaster Strikes

- Have water (preferably in plastic jugs) and canned or non-perishable food (and Opener) that does not require cooking.
- Learn first-aid and CPR. Have a first-aid kit and first-aid manual and needed medicines for family members.
- Have blankets or sleeping bags, and plastic sheets or other materials to repair your home or to improvise shelter.
- Have a flashlight with extra bulbs and batteries.
- Have a battery-powered portable radio with extra batteries.
- Have a covered container for a toilet and extra toilet tissue.
- Have a fire extinguisher and know how to use it.
- Learn how to turn off the gas, power, and water in your home.

- Notify your relatives that you are safe. (However, don't tie up phone lines if they are needed for emergency calls.)

- If government disaster assistance is available, the news media will announce where to go to make application.

During an Emergency or Disaster

- Keep calm, take time to think, give assistance where needed.
- Turn on your radio for official information and instructions.
- Use the telephone only for emergency calls.
- If requested to evacuate, take your emergency supplies and go to a safe location or to temporary shelters as directed by officials.

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After the Emergency or Disaster is Over

- Use caution in entering damaged buildings and homes.
- Stay away from damaged electrical wires and wet appliances.
- Check food and water supplies for contamination.

Spanish translation also provided.



Ejemplo:



Lista De Provisiones De Emergencia

El almacenar ahora, suministro de emergencia, puede ayudarle bastante en su seguridad y comodidad durante, y después de un terremoto. Guarde suficientes provisiones para por lo menos tres días.

De Sobré Vivencia

- ☐ Agua, un galón por persona, por día.
- ☐ Botiquín de primeros auxilios-recién surtido.
- ☐ Libro de primeros auxilios
- ☐ Alimentos (empacados, enlatados, que no necesitan cocinarse, alimentos para bebés, y para dietas especiales).
- ☐ Abrelatas (que no sea eléctrico)
- ☐ Cobertores o bolsas de dormir
- ☐ Radio portátil, linterna de mano y baterías extras
- ☐ Medicinas esenciales y vasos
- ☐ Extinguido de fuego (clase A-B-C)
- ☐ Comida y agua para las mascotas (animales caseros)
- ☐ Dinero

Suministros Sanitarios

- ☐ Bolas grandes de plástico para la basura, para desperdicios o para protección contra el agua
- ☐ Botes grandes para la basura
- ☐ Jabón en panes y detergente líquido
- ☐ Shampoo
- ☐ Cepillos para los dientes y pasta dental
- ☐ Suministros femeninos y para bebés
- ☐ Papel sanitario
- ☐ Cloro para uso doméstico
- ☐ Papel de periódico para envolver basura y desperdicios

Seguridad y Comodidad

- ☐ Zapatos fuertes
- ☐ Guantes gruesos para mover escombros
- ☐ Cambio de ropa
- ☐ Cuchillo y hojas para rasurar
- ☐ Manguera de jardinería-para usar como sifón o para apagar el fuego
- ☐ Tienda de campaña

De Cocina

- ☐ Braseró, estufa de acampar, sartén con calentador de combustible
- ☐ Combustible para cocinar (carbón, combustible para la estufa de acampar, etc.)
- ☐ Cuchillos de plástico, tenedores, cucharas
- ☐ Platos y vasos de cartón
- ☐ Toallas de papel
- ☐ Papel grueso de aluminio

Herramientas y Suministros

- ☐ Hacha, pala, escoba
- ☐ Llave perica (ajustable) para cerrar el gas
- ☐ Destornillador / desarmador, pinzas, martillo
- ☐ Un lazo de 1/2 pulgada de grosor
- ☐ Cinta de plástico y mantas de plástico
- ☐ Juguetes para los niños

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Checklist of Disaster Emergency Supplies

Stocking up now on emergency supplies can add to your safety and comfort during and after an earthquake. Store enough supplies for at least three days.

Example:



Survival

- ☐ Water, 1 gallon per person per day
- ☐ First aid Kit – freshly stocked
- ☐ First aid Book
- ☐ Food (packaged, canned, no-cook, baby food, and for special diets)
- ☐ Can opener (non-electric)
- ☐ Blankets or sleeping bags
- ☐ Portable radio, flashlight and spare batteries
- ☐ Essential medication and glasses
- ☐ Fire extinguisher — A-B-C type
- ☐ Food and water for pets
- ☐ Money

Sanitation Supplies

- ☐ Large plastic trash bags for trash, water protection
- ☐ Large trash cans
- ☐ Bar soap and liquid detergent
- ☐ Shampoo
- ☐ Toothpaste and toothbrushes
- ☐ Feminine and infant supplies
- ☐ Toilet paper
- ☐ Household bleach
- ☐ Newspaper — to wrap garbage and waste

Safety and Comfort

- ☐ Sturdy shoes
- ☐ Heavy gloves for clearing debris
- ☐ Change of clothing
- ☐ Knife or razor blades
- ☐ Garden hose — for siphoning and fire fighting
- ☐ Tent

Cooking

- ☐ Barbecue, camp stove, chafing dish
- ☐ Fuel for cooking (charcoal, camp stove fuel, etc.)
- ☐ Plastic knives, forks, spoons
- ☐ Paper plates and cups
- ☐ Paper towels
- ☐ Heavy-duty aluminum foil

Tools and Supplies

- ☐ Ax, shovel, broom
- ☐ Crescent wrench for turning off gas
- ☐ Screwdriver, pliers, hammer
- ☐ Coil of 1/2" rope
- ☐ Plastic tape and sheeting
- ☐ Toys for children

Spanish translation also provided.

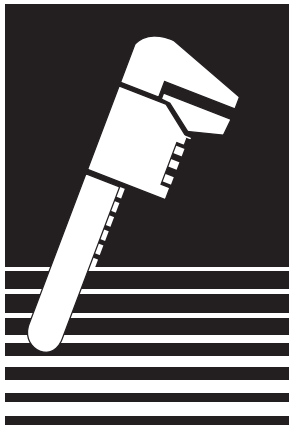
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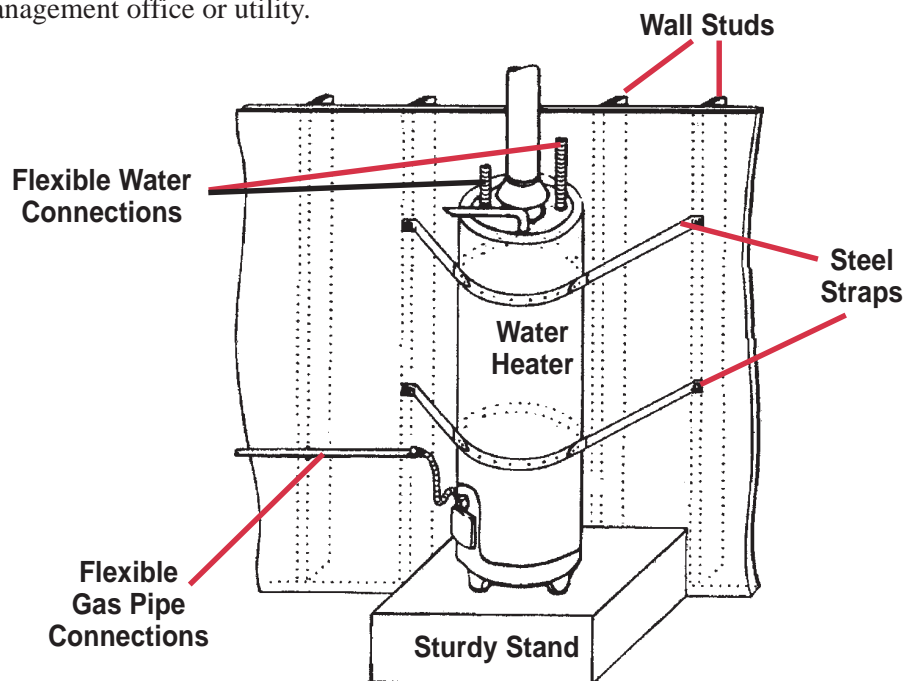


Secure your water heater to minimize damage during a disaster.

How to Secure Your Water Heater

Securing a Water Heater

- Mark your water heater at the front center, about one-third of the way down from the top and approximately one-third of the way up from the bottom.
- Ensure that the bottom mark is at least 4 inches above the water controls.
- Secure the water heater with a 16- to 20-gauge, pre-drilled steel strap.
- If you place the water heater on a pedestal, you must secure the pedestal to the wall or floor to keep it from moving out from under the water heater during an earthquake.
- For more information on securing your water heater, contact your local emergency management office or utility.



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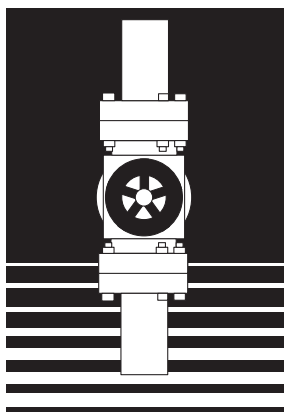
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Getting Water From A Water Heater

The water heater, if strapped properly, can be used as a backup source of drinking water in addition to the water you have already stored for emergencies.

- To get water out of your water heater when the water is turned off, you will need to turn off the gas or electric supply to the heater.
- Open a faucet located in the highest point of your home and then open the faucet at the bottom of the water heater. This allows the water to gravity feed from the tank.
- The water that first comes from the tank may be full of rust and other deposits. This is normal for a water heater that has been in a home for a few years. Discard the discolored water. When the water becomes clear, it should be safe to drink.
- If there is any question as to water purity — purify it.



It is best to learn how to turn off household utilities before disaster strikes.

Turning Off the Utilities

When disaster strikes, it often affects one or more of the utility systems in your home. Therefore, it is important to know where the main controls are located and when and how to turn them off.

Electricity

- Locate your main electrical switch or fuse panel, and learn how to turn off the electrical power system.
- If a generator is used as a backup power supply, remember to follow the manufacturer's instructions. Connect lights and appliances directly to the generator and not to the electrical system.

Water

- Turn off water at the main meter or at the water main leading into the house. This will prevent contaminated water from entering your water heater and plumbing.
- Turn off the valve — turn to the right. This will require a special valve wrench, available from a hardware store. Make sure you have the tool readily available.

Sewer System

- Make sure your sewer system is functioning properly before using it. This will prevent the contamination of your home and possibly the drinking water supply.

Gas Meter (illustration below)

- Locate your gas meter and valve.
- Have a wrench immediately available for turning off the meter.
- If you smell natural gas, evacuate immediately. Do not use matches, lighters, open flame appliances, or operate electrical switches. Sparks could ignite gas causing an explosion.
- Shut off gas ONLY if you smell gas or hear a hissing noise. Let the gas company turn the gas back on.

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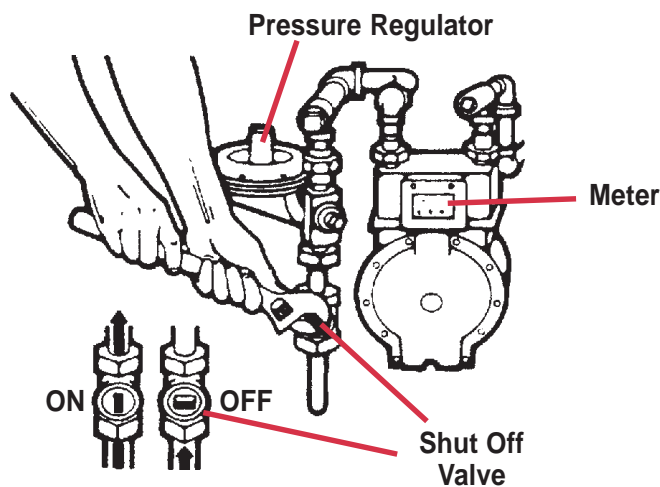


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GAS METER





Preparing for Landslides and Mud Flows

Landslide and mudflows usually strike without warning. The force of rocks, soil, or other debris moving down a slope can devastate anything in its path. Take the following steps to be ready.

Before a landslide

- Get a ground assessment of your property.
- Your county geologist or county planning department may have specific information on areas vulnerable to land sliding. Consult a professional geotechnical expert for opinions and advice on landslide problems and on corrective measures you can take.

Insurance

- Mudflow is covered by flood insurance policies from the National Flood Insurance Program. Flood insurance can be purchased through a local insurance agency.

Minimize home hazards

- Plant ground cover on slopes and build retaining walls.
- In mudflow areas, build channels or deflection walls to direct the flow around buildings.
- Remember: If you build walls to divert debris flow and the flow lands on a neighbor's property, you may be liable for damages.

Make evacuation plans

- Plan at least two evacuation routes since roads may become blocked or closed.
- Develop an emergency communication plan.
- In case family members are separated from one another during a landslide or mudflow that is (a real possibility

during the day when adults are at work and children are at school), have a plan for getting back together.

- Ask an out-of-state relative or friend to serve as the "out-of-area" contact. After a disaster it's often easy to call long distance. Make sure everyone knows the name, address and phone number for the contact person.

Learn to recognize the landslide warning signs

- Doors or windows stick or jam for the first time.
- New cracks appear in plaster, tile, brick, or foundations.
- Outside walls, walks, or stairs begin pulling away from the building.
- Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.
- Underground utility lines break.
- Bulging ground appears at the base of a slope.
- Water breaks through the ground surface in new locations.
- Fences, retaining walls, utility poles, or trees tilt or move.
- You hear a faint rumbling sound that increases in volume as the landslide nears. The ground slopes downward in one specific direction and may begin shifting in that direction under your feet.

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Continued on reverse page

Preparing for Landslides and Mud Flows (continued)

Sinkholes

- A sinkhole occurs when groundwater dissolves a vulnerable land surface, such as limestone, causing the land surface to collapse from a lack of support.

During a landslide:

If inside a building:

- Stay inside.
- Take cover under a desk, table, or other piece of sturdy furniture.

If outdoors:

- Try and get out of the path of the landslide or mudflow.
- Run to the nearest high ground in a direction away from the path.
- If rocks and other debris are approaching, run for the nearest shelter such as a group of trees or a building.
- If escape is not possible, curl into a tight ball and protect your head.

After a landslide:

- Remember that flooding may occur after a mudflow or a landslide.
- Stay away from the slide area. There may be danger of additional slides.
- Check for injured and trapped persons near the slide area. Give first aid if trained.
- Remember to help your neighbors who may require special assistance – infants, elderly people, and people with disabilities.
- Listen to a battery-operated radio or television for the latest emergency information.
- Check for damaged utility lines. Report any damage to the utility company.

- Check the building foundation, chimney, and surrounding land for damage.
- Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding.
- Seek the advice of geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk.

Mitigation

- Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency happening, or lessen the damaging effects of unavoidable emergencies. Investing in preventive mitigation steps now, such as planting ground cover (low growing plants) on slopes, or installing flexible pipe fitting to avoid gas or water leaks, will help reduce the impact of landslides and mudflows in the future. For more information on mitigation, contact your local emergency management office.

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Preparing for Household Fires

Protecting Against Fires

- Make sure your house number is clearly visible and fire trucks can reach your home.
- Install smoke detectors outside all sleeping areas or in each bedroom and on every level of your home, including the basement.
- Install A-B-C type fire extinguishers; teach family members how to use them.
- Check smoke detectors on a regular basis and replace the batteries twice yearly.
- Consider installing a residential sprinkler system.
- Know the location of all exits. If you live in an apartment, count the number of doorways between your apartment and the two nearest exits. Be familiar with all exits, including the windows.
- Plan your escape. Know two ways out of every room in case smoke or flames block your primary exit.
- Choose a meeting place outside the home, and be sure all family members are accounted for. If someone is missing, let the fire department know. Do not go back inside. Practice your plan with all family members.

- Escape plans and exit drills will help ensure that you can get out quickly when there is no time for mistakes.

- Sleep with your bedroom door closed.

- Keep folding/chain style ladders stored in each upstairs bedroom.

- Mark bedroom windows outside of the building of children or others who may not be able to self-rescue.
- Learn how to turn off gas and electricity in an emergency.

If Fire Strikes

- If there is a fire — evacuate and call 9-1-1 from a neighbor's house.
- Never use water on an electrical fire.
- If caught in smoke — drop to your hands and knees and crawl; breathe shallowly through your nose and use your blouse, shirt or jacket as a filter.
- If you are forced to advance through flames, hold your breath, move quickly, cover your head and hair, keep your head down and close your eyes as much as possible.
- Smother oil and grease fires in the kitchen with baking soda or salt, or put a lid over the flame if it is burning in a pan.
- If your clothes catch fire, “Stop, Drop and Roll” until the fire is out.
- If you are in a room and cannot escape, leave the door closed, stay low to the floor, and hang a white or light-colored sheet outside the window.

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Preparing for Winter Storms

Winter storms can range from moderate snow over a few hours to blizzard conditions with blinding, wind-driven snow or freezing rain that lasts several days. The time to prepare is before the snow falls and ice forms.

The first step is to listen for “Watch” and “Warning” alerts from the National Weather Service.

A Winter Storm Watch

A storm watch indicates that severe winter weather may affect your area.

A Winter Storm Warning

A winter storm warning indicates that severe winter weather is in your area or is expected imminently.

Preparing for Winter Storms

- Tune to your weather radio, AM/FM radio, or television to hear the latest updates and information.
- Have appropriate cold weather clothing available.
- If you have a kerosene heater, refuel your heater outside and remember to keep it at least three feet from flammable objects.
- Have rock salt and sand on hand for traction in ice.
- Fill your gas tank before the snow starts falling.
- Keep an emergency auto kit readily available.
- Make sure your fireplace functions properly.

During a Winter Storm

- Wear several layers of loose fitting, light weight, warm clothing rather than one layer of heavy clothing.
- Wear mittens rather than gloves.
- Wear a warm, woolen cap on your head.
- Conserve on fuel by reducing the internal temperature in your home.
- Do not overexert yourself if shoveling snow.
- Watch for signs of frostbite and hypothermia.
- Do not use charcoal or gas grills to cook or heat indoors.

If in your vehicle...

- Stay on the main roads.
- If you must stop your vehicle, remain inside the vehicle. Use a bright distress flag or your hazard lights to draw attention to your vehicle.
- If trapped in a blizzard, clear your tail pipe and run your engine and heater for 10 minutes every hour. Open your window slightly.
- During night hours, keep the dome light on in the car so rescue crews can see your vehicle.
- Make sure your vehicle disaster preparedness kit is well stocked and readily available.

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Preparing for Floods

Floods are the most common and widespread of all natural disasters. Remember that the sheer force of just six inches of swiftly moving water can knock people off their feet. Cars are easily swept away in just two feet of water.

Know the difference between a “Flood Watch” and a “Flood Warning.”

A Flood Watch

A Flood Watch is issued by the National Weather Service when flooding is possible within the designated watch area — be alert!

A Flood Warning

A Flood Warning is issued when flooding has been reported or is imminent — take necessary precautions.

What to do Before a Flood

- Purchase flood insurance.
- Listen to NOAA Weather Radio for current information.
- Keep your car filled with gas.
- Plan for evacuation. Know where you are going and how to get there.
- Take steps to flood-proof your home. Call your local building department or office of emergency management for information.
- Keep all insurance policies and your household inventory in a safe place.
- Take photos or a videotape of your belongings in the home.

What to do During a Flood

- Don't try to walk or drive through flooded areas.
- Stay away from moving water. Moving water six inches deep can sweep you off your feet.
- Stay away from disaster areas unless authorities ask for volunteers.
- Stay away from downed power lines.
- Be aware of areas where flood waters may have receded and may have weakened road surfaces.
- Don't throw damaged goods away until an official inventory has been taken.
- Throw away all food that has come in contact with flood waters.
- Wash your hands frequently with soap and clean water if you come in contact with flood waters.

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Power Outages

Everyone experiences power interruptions from time to time. Many of these outages come at times of weather extremes or accompany various disasters.

When the power is out, safety becomes a major concern. The following information is meant to help you when the lights go out

- Register life-sustaining equipment with your utility company.
- Make sure you have an alternate heat source and supply of fuel.
- Consider purchasing a generator, especially if someone in the house requires life-sustaining equipment that runs on electricity.
- When installing generators, follow the manufacturer's instructions very carefully.
- If your house is the only one without power, check your fuse box or circuit breaker panel. Turn off appliances before replacing fuses or resetting circuits.
- If power is out in the neighborhood, disconnect all electrical heaters and appliances to reduce the initial demand and protect the motors from possible low voltage damage.
- Unplug computers and other voltage-sensitive equipment to protect them against possible surges when the power is restored.
- Conserve water, especially if you are on a well.
- Keep your refrigerator and freezer doors closed. If the door remains closed, a fully loaded freezer can keep foods frozen for two days.
- Never use a charcoal barbeque inside the home.
- If you use candles for light, keep in mind they can cause a fire. It's far better to use battery-operated flashlights or glow sticks for alternative lighting.
- If you use a kerosene heater, gas lantern or stove inside the house, maintain ventilation to avoid a build up of toxic fumes.
- If your power is out, leave a light switch in the on position to alert you when services are restored.
- If you own an electric garage door opener, learn how to open the door without power.
- Prepare a power outage kit, or better yet, make it a part of your disaster preparedness kit. Consider having light sticks, flashlights, a battery-powered radio with extra batteries, and a wind-up clock as a part of the kit.
- Have a corded telephone available; remember that cordless phones will not work when the power is out.

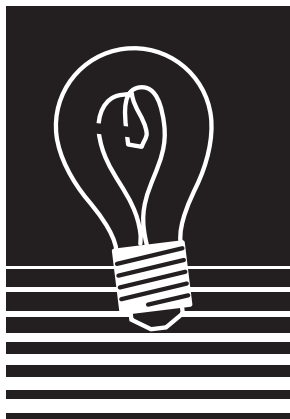
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When purchasing a generator make sure you get one listed with the Underwriter's Laboratory (UL) or Factory Mutual (FM).

■
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Using a Generator During Power Outages

Read the labels on lighting, appliances, and equipment you plan to connect to the generator to determine the amount of power that will be needed to operate the equipment. For lighting, the power of the light bulb indicates the power needed. Appliances and equipment usually have labels indicating power requirements on them. Choose a generator that produces more power than will be drawn by the combination of lighting, appliances, and equipment you plan to connect to the generator, including the initial surge when it is turned on. If your equipment draws more power than the generator can produce, you may blow a fuse on the generator or damage the connected equipment.

Follow the directions supplied with your generator. Never use portable generators indoors, this includes inside a garage. Adequate ventilation is necessary when running the generator. Proper refueling measures, outlined in the owner's manual, must be carefully followed. Make sure you have properly working Carbon Monoxide (CO) alarms inside your home.

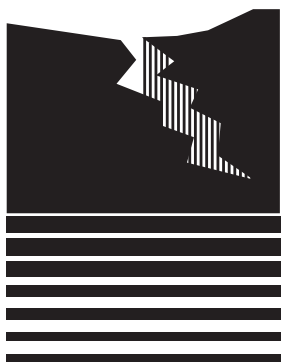
Let your generator cool down before refueling. You must store extra generator fuel in an approved safety can. Store fuel for the generator out of doors in a locked shed or other protected area. Do not store fuel in a garage, basement, or anywhere inside a home, as vapors can be released that may cause illness and are a potential fire or explosion hazard.

Connect the equipment you want to power directly to the outlets on the generator. Do not hook up a generator to your home's electrical service. Home-use (non-industrial) generators do not supply enough amperage to supply sufficient power for today's homes (that is, to run a furnace, lighting, appliances, and other electronic equipment). Unless your home's power supply was installed

with a disconnect to the main power feeding lines, power you put into your home from a generator could "backfeed" into the main line and cause problems for the electrical utility company, your neighbors, or yourself. "Backfeeding" is supplying electrical power from a generator at the residence into the incoming utility lines. This occurs when the necessary equipment used to isolate the generator from the incoming power lines is not installed.

The 1999 National Electrical Code, published by the National Fire Protection Association, is a nationally recognized standard for safe electrical installations. The NEC does permit an interface between the normal power source (generally the electric utility) and an alternate power source (such as a standby or portable generator) provided that the proper transfer equipment that prevents "backfeeding" is used. Simply connecting a cord from the generator to a point on the permanent wiring system and "backfeeding" power is an unsafe method to supply a building during a utility outage.

Improper connection methods not only endanger the building occupants, but pose a serious hazard to electric utility workers as well. There are a number of products available that will provide either an automatic or manual transfer between two power sources in a manner prescribed by the NEC. When selecting a product for this function, it should be one that has been evaluated for safe performance by a nationally recognized testing organization such as Underwriters Laboratories. The product must be installed according to the NEC, all applicable state and local codes, and the manufacturer's instructions. Homeowners should only attempt to install such products if they have a thorough knowledge of safe electrical installation practices for this type of equipment. Otherwise a qualified electrician should be contacted.



Preparing for Earthquakes

Washington is earthquake country.
When the ground starts to shake, “Drop, Cover and Hold”

Indoors:

- When you feel an earthquake, **DROP** and **COVER** under a desk or sturdy table. Stay away from windows, bookcases, file cabinets, heavy mirrors, hanging plants and other objects that could fall. **HOLD** onto the desk or table. If it moves, move with it. Do not run — stay where you are and “Drop, Cover and Hold.”

Kitchen:

- Move away from the refrigerator, stove, and overhead cabinets. **Drop, Cover and Hold** under a table or near an inside wall. Take time NOW to anchor appliances and install security latches on cabinet doors to reduce earthquake hazards.

Outdoors:

- If you are outdoors, move to a clear area, away from trees, signs, buildings, or downed electrical wires and poles.

Downtown Area:

- If you are on a sidewalk near a tall building, get into a building’s doorway or into the building’s lobby to protect yourself from falling bricks, glass and other debris.

Crowded Store or Public Place:

- DO NOT rush for the exits. Move away from display shelves holding objects that could fall on you, and **Drop, Cover and Hold.**

Driving:

- If you are driving, slowly pull over to the side of the road and stop. Avoid overpasses, power lines, and other hazards. Stay inside the vehicle until the shaking stops.

Wheelchair:

- If you are in a wheelchair, stay in it. Move to safe cover if possible (this is the one time you might use a doorway), lock your wheels, and protect your head with your arms.

Theater or Stadium:

- If you are in a theater or stadium, stay in your seat, protect your head with your arms or get under the seat if possible. Do not attempt to leave until the shaking stops.

After the Earthquake:

- Check yourself and those around you for injuries.
- Be prepared for aftershocks.
- Use the phone only to report a life threatening emergency.
- If you smell gas or hear a hissing sound — open a window or leave the building. Shut off the main gas valve outside.
- Try to make contact with your out-of-area phone contact and continue to monitor your radio.

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Preparing for Tsunamis

A tsunami is a series of destructive ocean waves affecting shorelines. Tsunamis are usually generated by earthquakes. Tsunamis may also be caused by underwater landslides, or underwater volcanic eruptions. Tsunami waves are destructive and could rise as high as 100 feet or more. Tsunamis are a threat to the coast of Washington.

The National Oceanic and Atmospheric Administration

NOAA has warning centers located in Hawaii and Alaska that can issue a tsunami warning within 15 minutes after an earthquake. This provides an effective warning for distant-source tsunamis.

A Tsunami “Watch”

A “Watch” reports on conditions that may generate a tsunami.

- Turn on your radio.
- Listen to your radio, NOAA Weather Radio, or TV for updates on the watch.
- Know well in advance what your safest evacuation route will be.

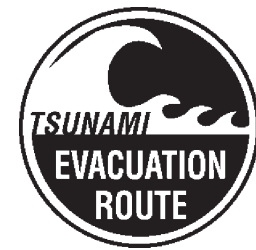
A Tsunami “Warning”

A “Warning” reports that a tsunami has been generated.

- Keep your radio on.
- Evacuate coastal areas immediately.
- Evacuate to higher ground or to upper levels of reinforced buildings.
- Continue to monitor your local radio or NOAA Weather Radio for further information and instructions.
- Wait for the “All Clear” before you return to the beach or to your home.

Coastal Evacuation Signs

- Tsunami evacuation routes were developed to assist coastal residents and visitors find safer locations in case of an earthquake and tsunami. Evacuation signs have been placed along coastal roadways to indicate the direction inland or to higher ground. In some places, there may be more than one direction available to reach safer areas. These routes may be marked with several signs showing additional options for evacuation. You will need to know the evacuation routes for your area.



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Preparing for Volcanoes

Volcanoes generate a wide variety of phenomena that can alter the earth's surface and atmosphere endangering people and property.

Volcanic dangers include not only an eruption of a mountain and associated lava flows, but also ashfall and debris flows. If you are near a mountain range, be familiar with the following.

Before a volcanic eruption:

- Plan ahead. Have emergency supplies, food and water stored.
- Plan an evacuation route away from rivers or streams that may carry mud or debris flow.
- Keep a battery operated radio available at all times.
- If there is an eruption predicted, monitor the radio, TV or NOAA Weather Radio for evacuation information.
- Follow the advice given by the authorities.

After a volcanic eruption:

- Evacuate if advised to do so.
- Be prepared to stay indoors and avoid downwind areas if ashfall is predicted.
- Do not approach the eruption area.
- Be aware of stream and river channels when evacuating.
- Move toward higher ground if mudflows are approaching.

Be prepared for ashfall generated from volcanoes:

- Have dust masks available.
- Close doors, windows and dampers. Place damp towels at door thresholds and other draft sources.
- Put stoppers in tops of your drainpipes.
- Protect dust-sensitive electronics.
- Keep roofs free of ash in excess of 4 inches.
- Remove outdoor clothing before entering a building.
- Wash vegetables from the garden before eating.
- If ash is in the water, let it settle before drinking.
- Use a battery-operated radio to receive information.
- Keep children and pets indoors.
- Minimize travel — ash may be harmful to your vehicle.
- Frequently change oil and air filters in your automobile.

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Preparing for Hazardous Materials

As many as 500,000 products pose physical or health hazards and can be defined as hazardous materials. Accidents involving toxic substances have occurred in communities across the country.

Consumers can protect themselves against injuries from hazardous materials by using, storing and disposing of the material in the proper manner. For example, motor oil seems a safe enough product when used properly. However, if one gallon of used motor oil is poured on the ground it can contaminate as much as a million gallons of groundwater, an amount equal to approximately one year's drinking water for over 50 people.

Tips for Your Safety

- If any chemical product is ingested, call 9-1-1 immediately.
- Keep all hazardous substances out of the reach of children and pets.
- DO NOT mix chemicals. Many household products are incompatible, such as bleach and household cleaners, and can cause serious injury.
- Store hazardous materials in a cool, dry, well ventilated area.
- DO NOT remove household substances from their original containers.
- Check the substance for expiration date.
- Carefully read the product label and directions before using.
- Use the products in the manner the manufacturer intended. For example, misapplication of oven and drain cleaners may cause irreparable eye damage.

Shelter-in-Place

Following a hazardous materials spill, you may be given directions from the authorities to either evacuate the area or "Shelter-in-Place." If the order is evacuation, do so immediately, carefully following directions. Do not wonder about, know where you are going, and how to get there. Don't forget your disaster supply kit. If the order is to remain in your home, office or school, you will need the following directions for "Shelter-in-Place."

- Move or stay inside.
- Close all windows and doors.
- Turn off ventilation systems (fans, heating- and air-conditioning systems, fireplace dampers, etc.).
- Go into a room and seal the room. Choose a room with the fewest doors and windows.
- Dampen towels and place in the crack under the door.
- Cut plastic sheeting to fit over the windows and vents. Secure the plastic in place with duck tape.
- Tape around the door.
- Turn on the radio.
- Stay in the room until told it is safe for you to come out.

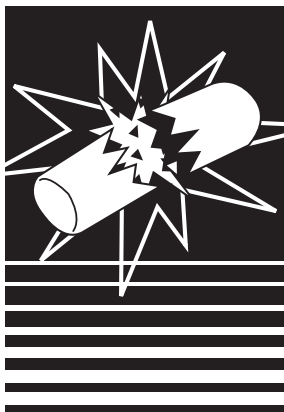
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Preparing for Bomb Threats

Bomb threats are usually received by telephone, but they may also be received by note, letter or email. All bomb threats should be taken very seriously and handled as though an explosive were in the building.

Your place of employment should have procedures in place instructing what to do when a bomb threat is received. Contact 9-1-1 immediately for all bomb threats.

If you receive a bomb threat, ask the caller the following questions:

- Where is the bomb?
- When is it going to go off?
- What kind of bomb is it?
- What does the bomb look like?
- What will cause the bomb to explode?
- Why did you place the bomb?
- What is your name?
- Where do you live?

Take good notes when talking to the person on the telephone.

- Be aware of background noise, special voice characteristics, music, office machinery, etc.
- If you are at work, get a co-worker to call building security for you while you are on the phone. Have a plan as to how you are going to alert your co-worker. A simple piece of paper with the word "Bomb" would be sufficient.

If you find a bomb, don't touch it or attempt to move it. Call for help and evacuate the area immediately.

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Purifying Household Water

Water storage and purification is a vital component of disaster preparedness.

Storing Water Safely

- Store water in thoroughly washed plastic, fiberglass, or metal containers that are lined with enamel.
- Never reuse a container that contained toxic materials.
- Plastic containers such as soft drink bottles are best. You can also purchase food-grade plastic buckets or drums.
- Seal water containers tightly, label with date, and store in a cool, dark place.
- Replace water every six months.

Water Purification

- There are many ways to purify water, but none is perfect.
- Boiling and disinfecting will kill most microbes but will not remove other contaminants, such as heavy metals, salts and most other chemicals.
- Before purifying water, let any suspended particles settle to the bottom, or strain them through layers of paper towels or a clean cloth.

Boiling

- Boiling is the safest method of purifying water.
- Bring the water to a rolling boil for 3-5 minutes.
- Let the water cool before drinking.

Distillation

- Distillation involves boiling water and then collecting the vapor that condenses back to water.

- To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right side up when the lid is upside down. Make sure the cup is not dangling into the water, and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.

Disinfection

- You can use household bleach to kill microorganisms. Use only regular household bleach that contains 5.25 percent sodium hypochlorite. Do not use scented or color safe bleaches, or bleaches with added cleaners.
- Add 16 drops of bleach per gallon of water. Stir and let stand for 30 minutes. If the water does not have a slight bleach odor, repeat the dosage and let stand another 15 minutes.
- Note: If you are filling a five gallon or larger container, you must still use the 16 drops per gallon method. Do not attempt to convert the drops into any other measure.
- Do not use other agents like iodine or water treatment products sold in camping stores to disinfect water. These agents may not contain 5.25 percent sodium hypochlorite, which is the only recommended agent to kill microorganisms.

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